SOUTHERN CALIFORNIA
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MAGLEV TASK FORCE

Wednesday, January 19, 2005
11:15 a.m. – 1:00 p.m.

SCAG Offices
818 W. 7th Street, 12th Floor
San Bernardino Conference Room
Los Angeles, California 90017
213.236.1800

Agenda & Map Enclosed

NOTE:

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If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact Sarah Adams at 213.236.1818 or adams@scag.ca.gov.

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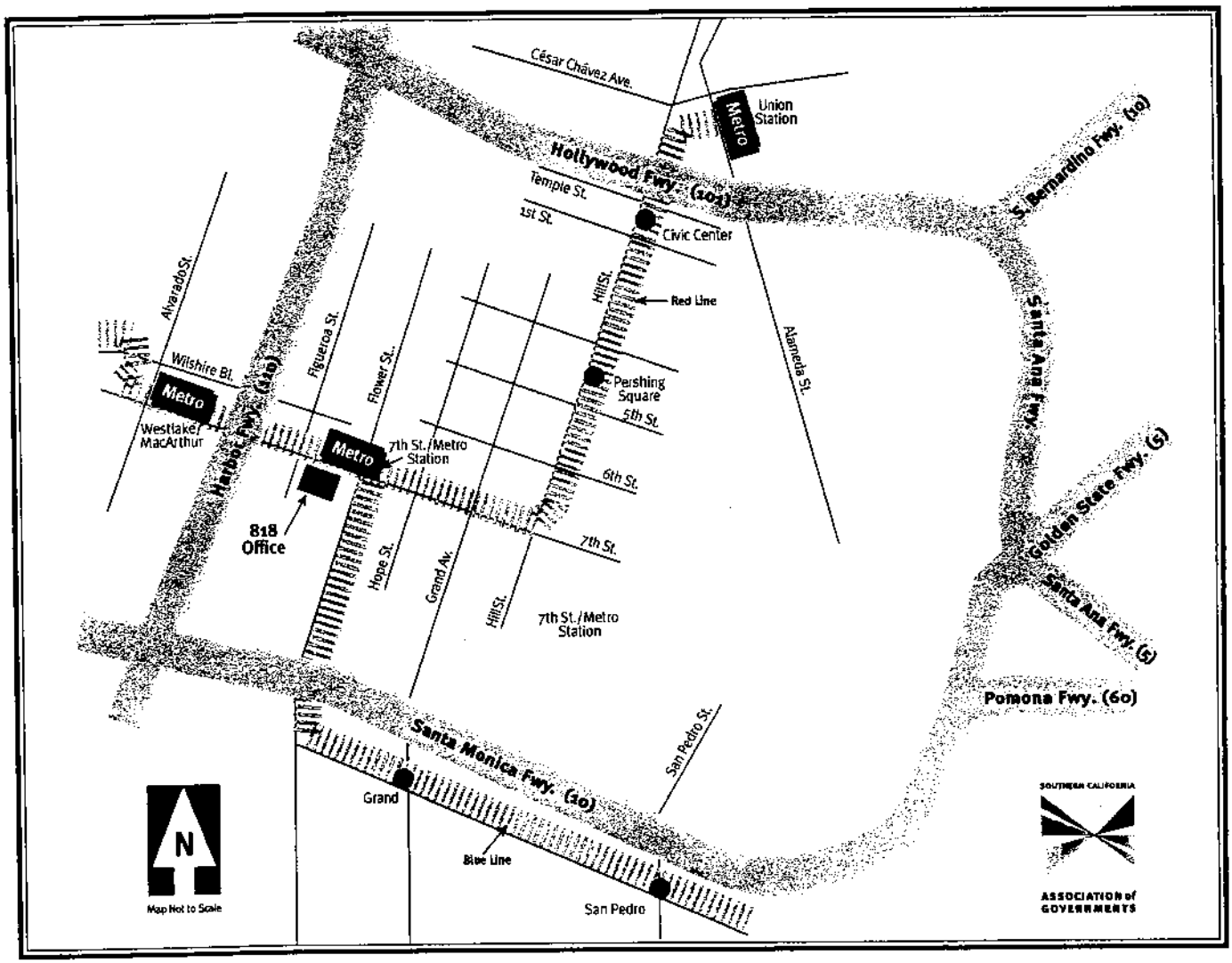

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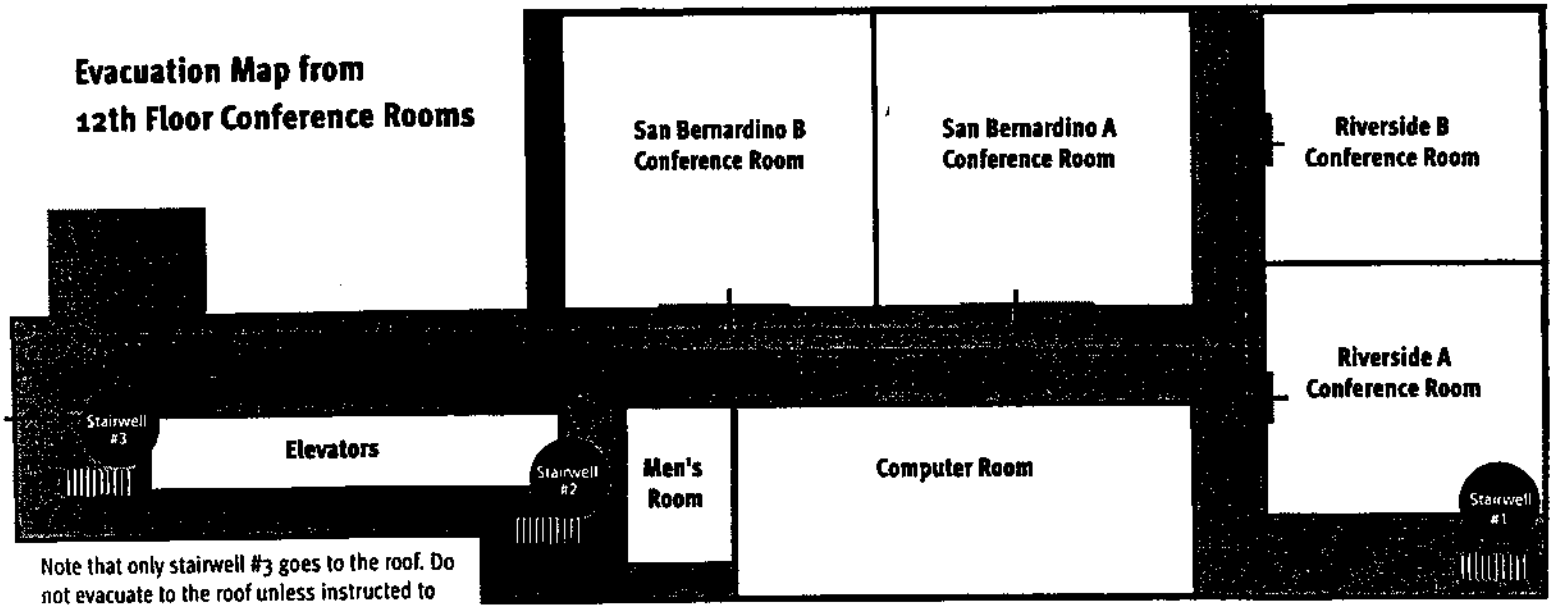
Rev. 12/30/97

Emergency Evacuation Procedures:

Evacuation Map from 12th Floor Conference Rooms



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SOUTHERN CALIFORNIA ASSOCIATION of GOVERNMENTS

MAGLEV TASK FORCE

AGENDA

		PAGE #	TIME
1. CALL TO ORDER			
2. INTRODUCTIONS AND WELCOME	Hon. Robin Lowe Chair		
3. PUBLIC COMMENT PERIOD			

Members of the public wishing to speak on an agenda item or not on the agenda, but within the purview of this committee, must notify the Staff and fill out a speaker's card prior to speaking. Comments will be limited to three minutes. The Chair may limit the total time for comments to 20 minutes.

4. CONSENT CALENDAR			
4.1. Summary Minutes of the October 20, 2004 Task Force meeting.		3	5
5. ACTION ITEMS			
5.1. Shanghai Experience (attachment)	Jim Gosnell, Deputy Executive Director Zahi Faranesh, Maglev Program Manager	13	20

Recommended Action:
Authorize an educational trip for SCAG elected officials and stakeholders in the region to experience the Shanghai Maglev system in Spring 2005. Authorization is subject to approval by the Administrative Committee and Regional Council.

5.2. Initial Operating Segment Memorandum of Understanding Final Draft (attachment)	Karen Tachiki, SCAG Legal Counsel	19	20

Recommended Action:
Approve the Initial Operating Segment (IOS) MOU Final Draft for circulation and signature by SCAG, City of Los Angeles, City of Ontario and SANBAG.

6. **INFORMATION ITEMS**

6.1. Update on Alternatives Analysis (memo)	**Anthony Piunno, SCAG Senior Contracts Admin.**	**41**	**10**
6.2. Congressional Shanghai Trip (memo)	**Zahi Faranesh, SCAG Maglev Program Manager**	**44**	**10**
6.3. SAFETEA and Transportation Appropriations update (memo)	**Don Rhodes, Manager Government Affairs**	**46**	**10**

7. **OPEN DISCUSSION** — **Committee Members**

   Provide direction to staff on issues of interest for future discussion.

8. **CHAIR'S REPORT** — **Hon. Robin Lowe, Chair**

9. **NEXT MEETING**
   February 16, 2004

ITEM 4.1 SUMMARY MINUTES OF THE OCTOBER 20, 2004 TASK FORCE MEETING

Summary Minutes
MAGLEV TASK FORCE MEETING
Wednesday, October 20, 2004

The Maglev Task Force of the Southern California Association of Governments held its meeting at the SCAG offices downtown Los Angeles. The meeting was called to order by the Vice Chair Lou Bone, City of Tustin. There was a quorum.

1.0 CALL TO ORDER

Vice Chairman Lou Bone called the meeting to order.

2.0 INTRODUCTION

Vice Chair Lou Bone conducted introduction and welcome of members and audience present at SCAG's Los Angeles offices and via teleconference.

3.0 PUBLIC COMMENT PERIOD

No public comment.

4.0 CONSENT CALENDAR

4.1 Minutes from the meeting of August 18, 2004 were approved.

5.0 ACTION ITEMS

5.1 Approval of LAX/South High Speed Ground Access Study – Revised

Frank Sherkow of Aztec Engineering presented a revised report on the LAX/South study. Data from previous model runs and studies revealed an error. This error was corrected and Mr. Sherkow wanted to make sure that the Task Force was aware of the changes and the final corrected numbers.

The recommended route was discussed as going from LAX down I-405 to Irvine. There are two branches on this line: one going into Anaheim and one going into Santa Ana. These branches are for future study on this corridor. There was a post processing difference after the model was run and came back to the modeling team. The difference was significant. The initial estimate was an overestimate by about 30-35%. The model was rerun and resulted in reduced ridership. But because of the reduced ridership, the consultants were able to reduce the number of cars in the fleet, the capital costs and the operating and maintenance costs.

Option 4 in the original study was the option that was selected by the Task Force earlier this year. The original ridership figures of 254,000 is now reduced to 171,000. This resulted in changes to the capital cost, annual train miles and

O&M costs. These all corresponded to ridership reductions. The same revenue sources and loan sources were maintained.

Assumptions were 75% of the horizon year ridership could be achieved on opening day and a 3% inflation and a 1.4% factor on population growth. The average one-way fare in 1997 dollars is about $11.00, freight and cargo revenue 7%, station parking 11.5%, station concessions and advertising 2%. All this is comparable to other corridors.

On opening year 2012 through horizon year of 2025 beyond the payoff year of 2050, this scenario would now generate a 30-31 year payoff after opening year service.

Mr. Sherkow also distributed a handout to all members that showed the LAX/South study statistics and ranked this study as second in overall cost/benefit ratio.

Ron Bates asked if this new data might make option 2 or 3 more cost effective than option 4. Mr. Sherkow said that there was a great deal of discussion about the cost effectiveness of each option. The study works to keep alive several different options for getting in and out of Anaheim because of the activity in the Anaheim area. Without knowing precisely which option would eventually provide the most cost-effective route, Option 4 kept alive both routes of getting in to Anaheim. The total system of 100 miles is not going to be built at once. Not only is Anaheim important for the normal jobs and tourist attraction trips in the area. But another maglev corridor is also being studied that goes from Anaheim into Riverside and to Ontario Airport. In the final recommendations of the study, although Option 4 was settled on, the final alignment was still open to further investigation.

Mr. Lawrence Dale asked if when they looked at revisions of ridership did they look at any connections of passengers from the IOS that may or may not transfer onto that segment? Mr. Sherkow stated that this corridor study did not consider any link to the IOS. A however there is part of this corridor that is common among three corridors being studied and that is the part that comes out of Union station goes to West LA and to LAX. We keep coming back to this segment as being a very high producer for the regional system. And by adding this segment to this corridor, it produces that much better. However, there are enormous trips in the Anaheim Irvine area since there are no other modes along the 405 corridor. So, this corridor amongst all others really lends itself to early implementation at one or both ends quite productively.

Mr. Sherkow stated that all current studies look at corridors as stand-alone segments because if they can survive the scrutiny (financial, technical and environmental) then if you connect them with other corridors both will produce much higher than they would separately. Mr. Dale asked if it would be beneficial to know what those assumptions may be. Mr. Sherkow referred to a

document that puts all parts together, the RTP. In that you can see how Maglev performs on a regional basis.

Dr. Ron Bates asked if the John Wayne, ITC and back to Santa Ana segment was not the strongest performing section of the system. He suggested that the numbers might be dramatically improved if the system stopped at John Wayne and then just extended to Santa Ana and Anaheim. It would provide the linkage to Anaheim as well as a back up in case the light rail doesn't happen in Santa Ana. So that is something to think about. Frank said that he would agree with Dr. Bates and added that until we know more about the SR22 project and how many tracks may be added to the LOSSAN corridor, we keep all options alive and take this map as a starting point into the next phase.

Mr. Lou Bone asked what would happen if the loop was taken out of Option 4. Mr. Sherkow responded that the other Options take into account various possibilities of doing this. Option 2 may appear to work out the best from a cost effectiveness standpoint; however from a system access and flexibility standpoint, there are other reasons. Also, San Diego has had several discussions about Maglev technology. If that happens that would greatly affect the southerly end of this system.

Chairwoman Lowe stated that Maglev started for the purpose of connecting airports. Mr. Richard Dixon responded that what is missing is a connection between ITC either out to March or to San Bernardino. In order to do that you may have to go through Anaheim or Ontario. Ms. Lowe asked if there was something in the measure that Orange County is going to bring forward that would include this? Mr. Bone said that Measure M is still under study in what they want to look at. Mr. Dixon added that the major thrust is the airport connectivity, but now you have the added option of tourist activity as the Cal-Nevada project is contemplating a connection into Anaheim.

Dr. Bates stated that his point was that the new numbers make Option 2, 3, 4 the principle option rather than 4 alone. His concern is having this committee on record supporting option 4 at this time whereas based on the information received all three of the option deserve more consideration in the next phase.

Ms. Lowe asked Mr. Sherkow if the average fare listed at 1997 $ would need to be translated to today's dollars. Mr. Sherkow stated that these dollars would be translated to today's dollars through inflation. He also added that although we are connecting 3 airports, the aviation demand component of any of the corridors is below 20%. In order for the technology to pay for itself, it must attract tourists, workers, and people going to other trips for other purposes.

ACTION: The Task Force approved the revised LAX/South High Speed Ground Access Study without selecting any of the Options as the final recommended alignment.

5.2 Release of Draft MOU for the IOS

Zahi Faranesh mentioned that SCAG has been working with three stakcholders on the MOU for the IOS: City of LA, Ontario and SANBAG. The total match is $1m to a total grant of $1m making the entire funding $2m for the study. We have the match commitments for the $1m. In order to get that match from the stakeholders, we have drafted an MOU. This is adraft with the idea of releasing this draft now so the legal departments can make revisions and make comments. Once finalized we will bring this MOU back for your approval. This draft has been developed in conjunction with our legal staff.

Mr. Dixon asked if the following procedure is what is expected to take place: this body approves release of the MOU, it goes out for review by the other agencies, comes back to this body, they give their blessing. Then the MOU goes where? Karen Tachiki said it would go to the Administration Committee.

So Mr. Dixon stated that his concern was that one reason this MOU is being done is to study an alternate methodology or technology other than Maglev. SCAG did that already and chose Maglev as the preferred technology so why are we spending more money to do this all over again. Secondly, this has a lot of ramifications should SCAG decide now to stop and step backwards and start over again looking at multiple technologies. By taking this step backwards is potential or existing funding at risk?

Mr. Faranesh responded that we are proceeding with the remaining money not being used in the alternatives analysis to do preliminary engineering on the IOS. The City of LA agreed to the match under the condition that SCAG conduct an alternatives analysis between the State High Speed Rail and Maglev looking at the ridership and finances. Zahi reaffirmed that SCAG's board took action to approve Maglev Technology and this program from the beginning has been under the guise of a Maglev program, not other technologies.

Mr. Dixon indicated that his real concern is the federal part of this and possible repercussions from Senator Feinstein. Are we putting any future funding at risk? Will there be serious political challenges?

Don Rhodes mentioned that the appropriations act was extended to November 2004 when Congress will come back to a lame duck session and pass an omnibus bill. The Reauthorization has been extended to May 2005. SCAG has requested in both measures specific money for Maglev. In appropriations planning funds were requested in order to complete the PE/EIR work. On Reauthorization, SCAG requested funding of about $10 million per year up to $60 million over the life of the bill. In both measures, Maglev is divided among multiple programs in the United States.

Mr. Rhodes stated that initially SCAG thought we had an advantage since federal dollars were only being used for planning. Construction and operations

costs would be handled solely through private capital. In meetings with Feinstein, who might be considered almost like a project manager on this project, she gets annoyed when she feels like there is a lack of progress. SCAG needs her support in the appropriations act because there is no money for SCAG right now. The government affairs team is not sure what will happen if we go back and say that we are looking at other technologies. It might appear to be confusing as to why SCAG is studying different technologies when we've been asking for so much money for Maglev all along.

Dr. Bates mentioned that he was disappointed in seeing this today he thought the MOU was finished two months ago. No matter how many experts you find, there will always be a group that will stay "No" to Maglev, and will want steel-on-steel. So, let's resolve it politically. The political minds still have to make those judgements based on the information they have.

Mr. Lou Bone mentioned that this conflict seems to be a political issue with the City Hall of Los Angeles where the Council is on one side and the Mayor's Office is on the other. Mr. Ed Edelman said that one of the problems with the City of LA is they have not been as active a participant with SCAG as all of the Task Force members have been. So, as the City was approached for match funding, SCAG had to start all over. Robin sent a letter to Hon. Alex Padilla and the Transportation Committee members to get some attendance at the Maglev Task Force meetings. And, as we went to the City to get support for the money, they inserted that they wanted some kind of further analysis. The City Council is on board with this condition.

Miles Mitchell stated that the elected officials haven't been as engaged at SCAG, but staff has been involved for many years. The City Council did take action to include an alternatives analysis as a condition for the match. Mr. Dixon said that everyone must come to the table and SCAG should keep Senator Feinstein engaged and the City of LA and other stakeholders engaged. But it is also important that SCAG is not redoing work that has already been done and thus giving Washington the wrong message.

Ms. Lowe stated that it is important to move this out into the public so all parties can review it. SCAG and the Task Force can make the inroads that we need to through Ed and the Mayor's office and Alex's office and the City Council members of Los Angeles. A presentation from some elected officials or attendance at their transportation meetings would be beneficial.

The task force discussed the importance the MOU brings to a connection to LAX. Realizing it is a regional consideration and bringing LAX into the picture makes it worth doing. Christina Cruz Madrid volunteered to meet with the City of LA and mentioned that her pictures from Shanghai make a compelling argument for Maglev. Chris Barnes questioned the amount of time this study could take. The task force then discussed shortening the time allowed for the study.

Mr. Dixon mentioned that the first step was releasing the MOU. Ms. Lowe repeated that this is to be released for discussion. Mr. Sherkow suggested that at the pre-bid conference SCAG give instruction to those present and supplement on the web, that one of the evaluation criteria will be how quickly this study can be completed.

ACTION: The Task Force approved the release of the draft of the MOU and added a factor that time for completion is one of the evaluation criteria for the proposals submitted for the alternatives analysis.

6.0 INFORMATION ITEMS

6.1 FRA Grants Status

Sarah Adams stated that SCAG has received all signed and executed grant agreements. Staff is working to finalize all contract amendments with Lockheed Martin and hope to start on Phase 2 of the IOS which is the preliminary engineering work as soon as possible. The FY02 $1M grant requires a $1M match and thus cannot be expensed until we get a signed and executed MOU. However there is $1.5M above and beyond that money that can be used immediately.

Sarah Adams explained that each grant is divided to take care of a different section of the IOS. Ms. Lowe requested a simple matrix of the grants for access and availability.

Mr. Dixon asked when the MOU is expected to come back to this committee then to the Administration Committee for review and ultimately at the RC for final approval. Zahi said the MOU could be finalized in a month and taken to the Administration Committee in December. Miles Mitchell stated that the schedule may be longer since it is multilateral. Miles suggested that there be one MOU between SCAG and LA and separate MOU's for each party. Karen Tachiki mentioned that SCAG can certainly do that, but its just a practical question as to how each agency can move forward in the most efficient and time effective manner. One combined MOU has been under discussion frankly because the interest of the three stakeholders should be the same. All the MOU's are somehow going to have to link to one another because they all relate to the same grant and the same scope of work. Although procedurally it would be easier, Ms. Tachiki assured the Task Force that SCAG staff would certainly be prepared to sit down in a room with council from each agency and go through the MOU to address any concerns if that is what it takes.

Mr. Dixon readdressed what would be the reasonable timeline to look at. Jim Gosnell said no sooner than the first of the year.

6.2 Shanghai Maglev' 2004 Conference Update

Robin Lowe stated that the Regional Council approved two people going to Shanghai. Due to some schedules those people had to change and now the two people going will be Zahi Faranesh and Jim Gosnell. Hasan Ikhrata is unable to attend at this time for some family reasons. It is extremely important though that they go carrying any questions from the committee. Christina brought back a fantastic review from her trip. But some questions were raised at the time of her report.

The Task Force suggested inviting the City of Los Angeles Chair of the Transportation Committee and also find out as much information as possible on operational costs. Certainly construction cost, but there has been a good deal of data on that aspect.

Ed Edelman followed up by saying that it would be a good idea if Robin called Alex Padilla to invite a member of LA City DOT. That would help get the City to make up for the City's lack of participation and would bring them up to speed. They would see first hand what the Maglev system is, both the benefits and downsides, so you have someone at City hall who is knowledgeable. Robin said she would follow-up with Padilla and would get back to Jim and Zahi.

6.3 SAFETEA and Transportation Appropriations update

Don Rhodes offered some additional information on Appropriations and Reauthorization. Both are essentially up in the air right now and asked that anything anyone could do to ensure money in those measures would be helpful. The Reauthorization is extended through May and the appropriations will be taken up in November.

Mr. Dixon added that, given developments surrounding the Alternatives Analysis, SCAG should keep the Senator engaged in a positive manner about the process. SCAG needs to emphasize that it is not a redo, but is a clarification. We don't want to discourage her support, because this whole thing could be mute. Don Rhodes agreed with this and said that Mark Kadesh was our primary contact in Feinstein's office.

The last request from Feinstein was a letter from one of our private partners ensuring her that they were going to actively engage in the SCAG maglev system so they could get additional funds in the appropriations measure later this fall. Robin suggested a conference call with herself, Lou, Don and Kadesh. So we can bring them up to date and let them know what we are doing with LA. Mr.

7.0 OPEN DISCUSSION

No open discussion.

8.0 CHAIR'S REPORT

Chairwoman Lowe stated that at the next meeting staff will report on their trip to China and the Task Force will also report on conversations with Los Angeles. Those meetings need to take place within the next few days. The election should be over within the next few weeks.

9.0 NEXT MEETING

November 17, 2004

ATTENDANCE LIST
(FROM SIGN-IN SHEETS)

Members Present:

*Hon. Robin Lowe, Chair	City of Hemet / RCTC
Hon. Lou Bone, Vice Chair	City of Tustin
Hon. Cristina Madrid	City of Azusa
Hon. Frank Gurule	City of Cudahy
Mr. James McCarthy	Caltrans District 7
Mr. Warren Weber	Caltrans Rail
Hon. Gene Daniels	City of Paramount
Hon. Richard Dixon	City of Lake Forest
Hon. Chris Barnes	City of La Palma
Hon. Ron Bates	Citizen
*Hon. Lawrence Dale	City of Barstow

(*Attended via tele-conference)

Guests:

Ed Edelman	Consultant
Crisanto Tomongin	Caltrans
Hannah Lee	City of LA – Council D12
Miles Mitchell	LADOT
Richard Marcus	OCTA
Sharad Mulchand	MTA
Stacy Alameida	MTA
David Chow	IBI Group
Frank Sherkow	Aztec Engineering
Bart Reed	Transit Coalition
Robert Meinert	Transit Coalition
John Bell	STV
Ludwig Schoell	Max Boegl USA

SCAG Staff:

Zahi Faranesh
Sarah Adams

ITEM 5.1 SHANGHAI EXPERIENCE

MEMO

To: **Maglev Task Force Members**

From: **Zahi Faranesh (x819) and Sarah Adams (x818)**

Date: **January 19, 2005**

RE: **Shanghai Maglev Experience**

RECOMMENDATION:

Authorize an educational trip for SCAG elected officials and stakeholders in the region to experience the Shanghai Maglev system in Spring 2005. Authorization is subject to approval by the Administrative Committee and Regional Council.

BACKGROUND SUMMARY:

Two SCAG staff were previously authorized to attend the 2004 Maglev Conference in Shanghai, China on October 26-28, 2004. The attached report summarized their experience and offers substantial detail on Maglev-related topics including the operating Shanghai Maglev Line. A slide-show presentation will be presented and further explanation will be offered regarding the significance of this trip and how their experience can be applied to benefit SCAG's Deployment Program.

As discussed at the October Maglev Task Force meeting, an educational trip for elected officials and other stakeholders along the IOS should be arranged in Spring 2005 to offer those involved in funding and deploying the Maglev system an opportunity to experience the technology first-hand. SCAG staff and management will offer comments on this trip and some logistical issues and will request comments from the Task Force.

2004 Maglev Conference, Shanghai, China

The 2004 Maglev Conference was held in Shanghai, China from October 26-28, 2004. The 18th International Conference proceedings focused on Magnetic Levitated Systems. Papers were presented from 14 countries to approximately 300 people who attended the conference. The Institute of Electrical Engineering, the Chinese Academy of Sciences, and the National MAGLEV Transportation Engineering R&D Center organized the conference. The National Natural Science Foundation of China, Transrapid International, Shanghai Maglev Transportation Development Co., Ltd., and MAX BOGL Construction Company supported the conference.

The papers presented were on the following topics:

- High Speed Maglev Developments and Projects
- Urban Maglev Developments and Projects
- New Ideas
- Power Supply
- Vehicle, Guideway and Infrastructure
- Safety, Operation Control and Maintenance
- Propulsion and Linear Motors
- Magnetic Levitation and Guidance
- On Board Energy Supply and Energy Transfer
- Magnetic Bearings

Shanghai Maglev Project

Most of the above topics presented were centered on the Shanghai Maglev project. Project completion took four years from starting the planning study to operation of the line. The project, which started construction on March 1, 2001, was a joint effort of the Chinese Government and German Transrapid International Company.

The first Maglev vehicle, composed of three sections, successfully completed its trial run on a single track on December 31, 2002. The second track was completed in 2003. Testing on two, five, and eight vehicle sections was conducted, and a maximum speed of 310 mph (501 km/h) was successfully achieved on a five-section vehicle train. Testing on intercrossing of two trains was at a maximum speed of 267 mph (430 km/h). Commercial operation on the 19 mile, double track line between Pudong International Airport and Long Yang Road Subway Station started in January 2004. Today, the system operates with three five-section vehicles and 10-minute headways. One way trip time is 7.5 minutes, and daily operation is 9 hours. By August 2004, the Shanghai Maglev line had carried 1.45 million passengers.

The Shanghai Maglev line was constructed at a cost of $1.2 billion (RMB 9.943 billion). So far no data has been released relating to the maintenance and operation of the line. The Shanghai Maglev line is the first commercially operated Maglev line in the world and it carries passengers in cars that offer two classes of service: the VIP section has leather reclining seats with trays, and four seats per row; the Ordinary sections have cloth, non-reclining seats, and six seats per row.

Shanghai Transrapid Development Company in conjunction with Shanghai International Trade Company and the Shanghai Pudong International Airport Import/Export Corporation were the

contractual parties in charge of implementing the Shanghai Maglev project. The Contractors group was composed of Transrapid International, Siemens, and ThyssenKrupp.

Many of the papers presented concentrated on technical analysis of the system design, guideways, operation control, propulsion and power supply, operation and maintenance, safety and environmental assessment. Overall, the analysis concluded that the entire system is reliable, and the technical performances of the equipment meet the requirements of operation of the performance standards set up by the German Federal Railway Authority and the Shanghai Transrapid Development Company.

Additional Shanghai Maglev Technical and Operational Considerations

- **Station Area:** The area where Long Yang road subway station is located is the administrative and cultural center of the new Pudong area of Shanghai. It is also a proposed transportation center and three Metro lines are planned to join there, which will make it possible for the passengers to transfer conveniently and directly to the Maglev Line.
- **Feasibility Study:** A pre-feasibility study was prepared by the municipal planning authority of the City of Shanghai. On June 30, 2002 an agreement on a joint preparation of a feasibility study for the demonstration and operation of a high-speed maglev system line was signed between the City of Shanghai and Transrapid International. The intended result of the study was the planning and design of the Shanghai Maglev demonstration project.
- **Station length:** 660 feet (200-meters) at each end of the line with maximum capacity of one 8-section vehicle (667 ft long, 794 seated passengers). The station has two double moving sidewalks.
- **Vehicle Configurations:** Currently a five-section vehicle is in operation for a total length of 420 feet, and seating passenger capacity of 464.
- **Guideway size and spacing:** Each guideway is 9.2 feet (2.8-meters) wide and 16.73 feet (5.1 meters) apart from the centerlines of each guideway.
- **Guideway Columns:** The distance between the pillars supporting the guideway is 82 feet (25 meters). Steel girders of 147.6 feet (45-meters) span are also used in the Shanghai Line for the crossover switches. The eight bendable steel switches were delivered from Germany. Column size is 5 ft x 6 ft.
- **Ridership:** The Shanghai Maglev line carried 1.45 million passengers by August 2004.
- **Power Consumption:** No information on power consumption was provided.
- **Operation and Maintenance:** 82 employees are responsible for the operation and maintenance under the Shanghai Maglev Transportation Development Co. Ltd.
- **Operating Costs:** No information on the assessment of the operating costs.
- **Maintenance Station:** Approximately 1.9 mile long connection with three crossovers connecting to the maintenance facility close to Pudong International Airport station.
- **Signage:** There are a significant amount of signs about the project and services, at the airport, subway rail stations, and the Urban Planning Museum. There are video monitors in each subway rail vehicle.
- **Security:** Security x-ray scanning machines are at the Long Yang station for baggage check.

- **Ticketing System:** All ticket machines are fully automated with automated control at the entrances and the exits.

Future Shanghai Maglev Development Projects

The final decision on the Beijing to Shanghai project (900 miles) is subject to the result of the Shanghai to Hangzhou project. At present the Shanghai Transportation Development Company is conducting the preliminary study on the extension of the Shanghai to Hangzhou project.

The Shanghai Maglev line has proven that the ground passenger transportation technologies can travel at 310 mph, that the technology is mature, reliable, safe and environmentally friendly and that it can be put into operation in other parts of the world such as in the SCAG region. China's long range vision includes building 5,000 miles of a high-speed rail ground passenger network. The proposed 900-mile Shanghai-to-Beijing high-speed rail project is waiting for a final government decision on whether to construct Maglev or High-speed steel wheel rail technology. Some papers presented at the conference suggested that the Maglev technology should be adapted to the Shanghai-Beijing line, and others suggested that both technologies are needed in China.

High Speed Surface Transportation (HSST) Slow-Speed Maglev

There were some papers discussing the Japanese HSST slow-speed Maglev, which will be operating in March 2005 for the opening of the World Exposition. The Maglev line, called the Tobu Kyuryo line, in the northeastern suburbs of the city of Nagoya, will connect to the town of Fujigaoka, a highly urbanized area, and then to the town of Yakusa. The HSST Maglev system was selected over steel wheel rail because Maglev can operate more efficiently at a high gradient slope of 6%. The line will be six miles long and is expected to reach a maximum speed of 62 mph, with a forecasted ridership of 30,000 passengers per day. The line is double track with nine stations and will take 15 minutes to travel end-to-end. The HSST Maglev train vehicles are manufactured by Chuba HSST Maglev technology in Japan, and are being constructed under Japanese standards. HSST magnetically levitated train research and development began thirty years ago by Japan Airlines.

In 1989, The Chubu HSST Development Corporation was established to develop the first one mile testing track in Nagoya for full commercial testing application of new generation vehicles. In 2000, a quasi-public corporation was formed in order to construct and operate the Tobu-Kyuryo line. The total estimated project budget was $770 million.

The infrastructure is being constructed primarily on an elevated guideway above existing public roadways with approximately 0.8 mile of tunnel. The fleet will consist of eight three-car trains operated by normal conductive Magnetic levitation, an automatic train control system. The construction of the guideway and the vehicles started in April 2002. The prototype of a 3-car train was manufactured, and performance verification tests at track were conducted in October 2002. The total passenger capacity is 104 seated and 140 standing, for a total of 244 passengers per train. The Tobu-Kyuryo line will be the first commercial slow speed magnetic levitation vehicle system to be operated in an urban area.

Strategic Considerations and Issues

There were papers presented discussing the use of Maglev for freight transportation and its advantages for a fast, safe, and reliable mode of operation. Some papers focused on further development and optimization for the near future on guideway and guideway equipment, vehicles, propulsion and power supply, operation control systems, and standardization and simplification of the Maglev system deployment. Also, economic optimization and cost reduction for the investment costs and operation including the maintenance costs were discussed.

Lessons Learned from the Shanghai Project

The most valuable achievements obtained from the construction of Shanghai Line was stated as the development of the hybrid guideway structure system and its manufacturing technology, including design of the alignment, design and manufacture of the guideway girders, control of the settlement and development of special bearings for the guideway, etc. The intellectual property rights of all these unique technologies belong to the Chinese.

Summary and Conclusion

The 2004 Maglev Conference was very successful in delivering information, data, technical analysis and application on the deployment of High-Speed Maglev system. SCAG staff gained first hand experience on Maglev operation by conducting field trips and riding the Shanghai Maglev line. SCAG made a presentation on the need for an Interregional Maglev system to reduce roadway congestion and to provide ground access to the regional airports in the SCAG region. The SCAG presentation was received very well and provided discussion among members of the conference. Several attendees were interested in SCAG's "system" concept and the connection and utilization of regional airports. Also of particular interest was SCAG's financial plan to incorporate public and private partnerships.

Also, the proceedings provided great new information on Maglev technology, and its applications and attributes. It was proven and concluded that Maglev is fast, safe, reliable quiet, comfortable and environmentally friendly. The successful construction and operation of the Shanghai Maglev project solved many important problems concerning the practical application of the high-speed Maglev transportation system. It has created an active foundation for Maglev deployment in the United States and the SCAG region. As an international transportation industry in general, Maglev is still in the early stages; however, significant future growth in the technology and deployment of Maglev is expected throughout the world. China has indicated they are very interested in expanding Maglev corridors, Japan will soon have slow-speed Maglev technology in operation, Germany is developing new Maglev lines and the United States has several Maglev projects underway. The technology is expected to dramatically transform ground transportation capabilities and services.

ITEM 5.2 INITIAL OPERATING SEGMENT MEMORANDUM OF UNDERSTANDING FINAL DRAFT

MEMO

To: **Maglev Task Force Members**

From: **Zahi Faranesh (x819) and Sarah Adams (x818)**

Date: **January 19, 2005**

RE: **Initial Operating Segment (IOS) Memorandum of Understanding (MOU) Final Draft**

RECOMMENDED ACTION:

Approve the IOS MOU Final Draft for circulation and signature by SCAG, City of Los Angeles, City of Ontario and SANBAG.

SUMMARY:

The attached MOU is the Final Draft to be sent to all parties contributing matching funds for FRA grants on the IOS. These parties include SANBAG, City of Ontario and City of Los Angeles.

Major outstanding issues have been resolved and the final draft MOU is ready for re-circulation and signature.

A review and highlights of the revised document, a discussion of outstanding issues and the expected schedule for completion will be covered.

FINAL DRAFT

MEMORANDUM OF UNDERSTANDING AMONG CITY OF LOS ANGELES, CITY OF ONTARIO, SAN BERNARDINO ASSOCIATED GOVERNMENTS AND SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS FOR MAGLEV ALTERNATIVES ANALYSIS AND PRELIMINARY ENGINEERING ON IOS CORRIDOR

This Memorandum of Understanding (MOU), dated as of _____, 2005, is entered among the City of Los Angeles ("Los Angeles"), the City of Ontario ("Ontario"), the San Bernardino Associated Governments ("SANBAG") and the Southern California Association of Governments ("SCAG"). Los Angeles, Ontario, SANBAG, and SCAG are sometimes referred to individually as "Party" and collectively as "Parties." Los Angeles, Ontario and SANBAG are referred to collectively as "Project Participants" herein.

WHEREAS, on or about September ___, 2002, SCAG and the Federal Railroad Administration (FRA) entered into a Cooperative Agreement for Pre-construction Planning Funding for the Los Angeles, California Maglev System (#DTFRDV-02-60029), as amended on _____, 2004; (the "FRA" Agreement.") :

WHEREAS under such Agreement FRA may provide funding assistance of up to $1,000,000 provided that local, cash match contribution of $1,000,000 is received for total project funding of $2,000,000;

WHEREAS, SCAG has developed the Initial Operating Segment ("IOS") of the Maglev Deployment Program in order to decentralize the regions airports, and to connect major activity and multi-modal transportation centers in the region, improve surface transportation and enhance goods movement;

WHEREAS, the IOS Preliminary Engineering effort will span multiple years;

WHEREAS, in order to assist in coordinating this regional effort, SCAG has contracted for the consultant services of Lockheed Martin Mission Systems ("Consultant 1") to develop elements of the Preliminary Engineering documents, including mapping, structure and guideway design, station and maintenance facility locations, and refined capital and operation and maintenance costs;

WHEREAS, the Parties seek to coordinate the planning of the IOS, in order to take advantage of partnership opportunities for developing a coalition for deployment, and in order to efficiently utilize efforts already made in prior feasibility studies;

WHEREAS, the Project Participants have requested that an alternatives analysis be undertaken to evaluate in detail the various available high speed technologies for the most optimum transit system for the IOS;

WHEREAS, SCAG is willing to undertake that alternatives analysis by procuring the services of a qualified consultant "(Consultant 2");

WHEREAS, the Project Participants agree to provide a combined total, local cash match as set forth below, to enable SCAG to utilize Consultant 1 and to procure Consultant 2 for the provision of Services as described herein;

WHEREAS, SCAG agrees to seek an amendment to the contract with Consultant 1, in order to make said contract consistent with the terms and conditions of this agreement;

NOW THEREFORE, in consideration of the promises and mutual understandings of the Parties and SCAG it is agreed as follows:

1. SCOPE OF SERVICES

a. SCAG agrees to seek an amendment to its existing contract with Consultant 1, consistent with the terms and conditions contained in this MOU. (" Contract Amendment")

b. Subject to the execution of the Contract Amendment Consultant 1 shall perform the Services described in Part 1 of the "Scope of Work" attached hereto as Exhibit A and incorporated herein by this reference:.

c. SCAG has prepared a Request for Proposal (RFP) which requires Consultant 2 to perform the work described in Part 2 of the Scope of Work, and includes the following task: I. Alternatives Analysis. SCAG agrees to procure Consultant 2 in accordance with applicable federal and state requirements. The Parties shall each have one representative who shall participate in the consultant selection process through participation in the Proposal Review Committee. The Proposal Review Committee shall recommend to the Regional Council the selection of Consultant 2. The Regional Council retains the discretion to award a contract for Consultant 2.

d. SCAG and its consultants shall perform the Services in accordance with the Scope of Work (Exhibit A Parts I, II and III), attached hereto and incorporated herein by this reference. SCAG, shall have authority to approve invoices and pay for the work of Consultant 1 and after consultation with the Project Steering Committee shall have final authority to approve invoices and pay for the services performed by the Consultant 2..

e. It is understood by each party to this MOU, that this MOU has been written before SCAG has entered into the Contract Amendment and before procuring Consultant 2, as outlined in this MOU. Therefore, in the event that SCAG is unable to execute the Contract Amendment and/or in the event that a second consultant is not procured by SCAG in accordance with the terms and conditions of this MOU, the Parties shall meet to discuss the amendment, termination of this MOU or other appropriate action.

2. TERM

This MOU shall commence on the date this MOU is fully executed and terminate on the later of October 31, 2005 or the date that SCAG has completed the Services as required in the Scope of Work.. In the event this project is not approved in the SCAG Fiscal Year 2005-06 OWP, this MOU shall terminate effective June 30, 2005.

3. PAYMENT

a. Los Angeles agrees to provide $563,000 in local, cash match toward the Project, in accordance with the terms of this MOU. Los Angeles certifies that the cash match provided is from non-federal funds.

b. Ontario agrees to provide $200,000 in local, cash match toward the Project in accordance with the terms of this MOU. Ontario certifies that the cash match provided is from non-federal funds.

c. SANBAG agrees to provide $236,734 in local, cash match toward the Project in accordance with the terms of this MOU. SANBAG certifies that the cash match is from non-federal funds.

d. SCAG agrees to provide $266 in local, cash match toward the Project in accordance with the terms of this MOU. SCAG certifies that the cash match is from non-federal funds.

e. The maximum cash match to SCAG from the Project Participants to this MOU, for services provided under this MOU, is a total of one million dollars ($1,000,000).

f. The Project Participants shall provide the local cash match described above to SCAG no later than 30 days after the execution of the Contract Amendment or the execution of Consultant Agreement Number 2, whichever is earlier. Cash match shall be used to pay for costs and expenses incurred by SCAG Consultants and Staff related to Services provided under this MOU and for no other purpose.

g. SCAG shall provide a copy of its Consultant Invoices to each member of the Project Steering Committee that includes name of recipient, subcontractor invoices, receipts, amount approved, and a complete description of the work performed including its relationship to the Scope of Work, including the following:

- Cost incurred
- Time frame
- Description of the activity

h. SCAG shall provide quarterly progress reports to each member of the Project Steering Committee that includes a complete description of work performed by SCAG Staff and the relationship to the Scope of Work, including the following:

- Cost incurred
- Time frame
- Description of the activity

i. Copies of SCAG Consultant Invoices shall be addressed to

Allyn Rifkin
City of Los Angeles
Department of Transportation
221 N. Figueroa Street
Los Angeles, CA 90012

Mr. John Sullivan, City Engineer
City Of Ontario
303 East B Street
Ontario CA 91764-4196

{Insert name of specific person}
San Bernardino Associated Governments
472 N. Arrowhead Ave
San Bernardino, CA 92401

j. Payments shall be addressed to:

Joan Tsao
Southern California Association of Governments
818 West Seventh Street, 12th floor
Los Angeles, California 90017-3435
Attention: Finance Department

4. Project Steering Committee and Project Manager

   a. All work under this MOU shall be coordinated with SCAG through the Project Manager. For purposes of this MOU, SCAG designates Mr. Zahi Faranesh as the Project Manager. Los Angeles designates Mr. Allyn Rifkin as its Project Manager. Ontario designates Mr. John Sullivan as its Project Manager. SANBAG designates **{Insert name of specific person}** as its Project Manager. Each party reserves the right to change the designation upon providing written notice to each of the other parties.

   b. Each Project Manager designated above shall serve as that party's representative on the Project Steering Committee.

   c. The Project Steering Committee shall operate by majority vote.

   d. The Project Steering Committee shall oversee the work of Consultant 2, subject to section 1(d) and shall receive the comments of the Technical Advisory Committee.

e. In the event that the Project Steering Committee recommends that the scope of work of Consultant 2 be modified in any manner, SCAG shall not be required to seek modification of the scope of work unless a source of funding is secured and the consultant is willing to execute an appropriate amendment to the scope of work

f. In addition to the provisions contained in paragraph 6, in the event that the Project Steering Committee by a majority vote, which majority does not include SCAG takes an action which results in a claim of any nature against SCAG, each party shall defend and indemnify SCAG against any and all liability for such claim.

g. The Project Steering Committee shall meet as often as required in order to facilitate Consultant 2's compliance with the schedule set forth in Consultant 2's scope of work.

5. Technical Advisory Committee

a. Each Party shall appoint one (1) member to a Technical Advisory Committee (TAC). The TAC shall seek the participation of representatives from a broad cross section of interests, including but not limited to Caltrans, Los Angeles Metropolitan Transportation Authority (MTA), Metrolink, Southern California Regional Rail Authority and FHWA/FTA Metro office. Failure of one or more of the aforementioned entities to participate shall not preclude the work of the TAC from occurring. The Chair of the TAC shall be selected by a majority vote of the members of the TAC present at its first meeting. The TAC will meet monthly or by call of a minimum of two members. The TAC shall review and comment on the work of Consultant 2 and shall report its comments to the Project Steering Committee. Such review and comment shall take place before Consultant 2 reports to the Maglev Task Force. The TAC may also make recommendations to the Maglev Task Force and/or the Regional Council regarding the work of Consultant 2.

6. RECORDS RETENTION AND AUDITS

a. During the course of the Project and for three (3) years thereafter, each Project Participant shall maintain all data, documents, reports, records, contracts and supporting materials relating to this MOU as SCAG or FRA may require. Reporting and record-keeping requirements are set forth in 49 C.F.R. Part 18 and incorporated by reference. Project Closeout does not alter these requirements.

b. Project Closeout occurs when all required Project work and all administrative procedures described in 49 C.F.R. Part 18, or 49 C.F.R. Part 19, as applicable, have been completed and when FRA notifies SCAG and forwards the final Federal assistance payment, or when FRA acknowledges SCAG's remittance of the proper refund. Project Closeout shall not invalidate any continuing obligations under this MOU.

c. The Project Participants further agree to permit the Secretary and the Comptroller General of the United States or their authorized representatives (or other Federal or State government representatives), to inspect all Project work, materials, payrolls, and other data, and to audit the books, records, and accounts of the Project Participants pertaining to this MOU. Copies shall be made and furnished to SCAG upon request at no cost to SCAG.

d. SCAG agrees to establish and maintain proper accounting procedures and cash management records and documents in accordance with Generally Accepted Accounting Principles (GAAP). SCAG shall reimburse Project Participants for expenditures not in included in the Scope of Work.

e. During the course of the Project and for three (3) years thereafter, SCAG, its consultants and sub-consultants shall maintain all data, documents, reports, records, contracts and supporting materials relating to this MOU

f. During the course of the Project and for three (3) years thereafter, Project Participants or any of their duly authorized representatives, upon reasonable written notice shall have access to all the necessary records of SCAG and its consultants to conduct audits to assure that SCAG and its consultants have complied with the terms and conditions of this MOU.

6. INDEMNITY

Each Party shall indemnify, defend and hold each other their respective members, officers, agents and employees harmless from any liability and expenses, including without limitation, defense costs, any costs or liability for any claims for damages of any nature whatsoever arising out of and to the extent caused by any act or omission of any Party or their officers, agents, employees, contractors or subcontractors in connection with this MOU.

7. TERMINATION OF MOU

a. This MOU maybe terminated upon the consent of all Parties. In the event all Parties agree to terminate this MOU, the Parties shall meet to determine the orderly disposition of any remaining unexpended match monies.

b. If through any cause, any Party fails to fulfill in a timely and proper manner its obligations under this MOU, or violates any of the terms or conditions of this MOU or applicable Federal and State laws and regulations, any non-breaching Party reserves the right to terminate funding for the Services, or any portion thereof, upon written notice to all other Parties.. Such notice shall include the effective termination date.In effectuating the termination of the MOU, if SCAG is not the breaching party , the parties shall meet to ensure that no adverse legal liability accrues to SCAG and to determine the orderly disposition of any remaining unexpended match funds.

c. In the event that SCAG's Consultant 1 is unable or refuses to perform the Services agreed to herein, or refuses to amend its contract consistent with the terms and conditions of this MOU or if SCAG is unable to obtain the approval of the FRA or any other oversight agencies of a contract with Consultant 2 to perform the Alternatives Analysis , then the Parties shall meet to discuss amendment of this MOU. Additionally, each Party reserves the right to terminate this MOU.

d. In the event this MOU is terminated prior to the completion of the work of either Consultant, , SCAG's only responsibility to the Project Participants shall be to provide a final progress report on the Project, report on the expenditures to the date of termination and return the unexpended match monies to the Project Participants in the same proportion as the match monies were contributed to fund the work.

8. RIGHTS IN DATA AND COPYRIGHTS

a. All property, documents, data, and materials provided to, produced, distributed, or otherwise related to the Project shall become the property of SCAG, with each Party entitled to the use thereof, subject to the terms and conditions of the FRA Grant Agreements.

b. The term "Subject Data" used in this section means recorded information, whether or not copyrighted, that is developed, delivered, or specified to be delivered under this MOU. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term does not include financial reports, cost analyses, and similar information incidental to Project administration.

c. The parties to this MOU may not publish or reproduce Subject Data in whole or in part, or in any manner or form, nor authorize others to do so, without the written consent of FRA, until such time as FRA may have either released or approved the release of such data to the public.

d. SCAG shall be free to copyright material developed under this MOU. FRA reserves a royalty-free, nonexclusive and irrevocable license to reproduce, publish or otherwise use and authorize others to use, work products funded under this MOU.

9. MISCELLANEOUS

a. All obligations of SCAG under the terms of this MOU are subject to the approval of SCAG's Fiscal Year 2005-06 Overall Work Program (OWP) by outside agencies.

b. This MOU contains the entire understanding between the parties and supersedes any prior written or oral understandings and agreements regarding the subject matter of this MOU. There are no representations, agreements, arrangements or understandings, oral or written, between the parties relating to the subject matter of this MOU, which are not fully expressed herein

c. This MOU shall be construed and interpreted under the laws of the State of California.

d. In the event any part of this MOU is declared by a court of competent jurisdiction to be invalid, void, or unenforceable, such part shall be deemed severed from the remainder of the MOU and the remaining provisions shall continue in full force without being impaired or invalidated in any way.

e. The Parties shall not assign this MOU or any part thereof, without written consent and prior approval of each Party and any assignment without said consents shall be void and unenforceable.

f. No alteration or variation of the terms of this MOU shall be valid unless made in writing and signed by authorized representatives for the parties hereto and no oral understanding or agreement not incorporated herein shall be binding on any of the parties thereto.

g. No funds of any nature are allocated or encumbered in this MOU except as provided for in Exhibit B.

h. The covenants and agreements of this MOU shall inure to the benefit of, and shall be binding upon, each of the parties and their respective successors and assignees.

i. Notice will be given to the parties at the address specified in Paragraph 3 unless otherwise notified in writing of change of address.

j. Time is of the essence for each and every provision of this MOU.

k. All parties participated in drafting this MOU.

l. Each party shall be excused from performing its obligations under this MOU during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control, including but not limited to: any incidence of fire, flood, acts of God, commandeering of material, products, plants or facilities by the federal, state or local government, national fuel shortage, or a material act or omission by a party, when satisfactory evidence of such cause is presented to each party, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party non performing.

IN WITNESS WHEREOF, the parties have caused this MOU to be executed by their duly authorized representatives as of the dates indicated below:

CITY OF LOS ANGELES DEPARTMENT OF TRANSPORTATION

By: _____
Wayne K. Tanda
General Manager

Date: _____

Approved as to Legal Form:

_____
Rockard J. Delgadillo, City Attorney
By: Shelley I. Smith, Assistant City Attorney

Attest:

_____
J. Michael Carey, City Clerk
By: _____, Deputy City Clerk

CITY OF ONTARIO

By: _____
Greg Devereaux
City Manager

Date: _____

Approved as to Legal Form:

_____
Mary Wirtes
City Attorney

SAN BERNARDINO ASSOCIATED GOVERNMENTS

By: _____
Hon. Bill Alexander
President

Date: _____

Approved as to Legal Form:

_____
Jean-Rene Basle
Counsel

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

By: _____
Heather Copp
Chief Financial Officer

Date: _____

Approved as to Legal Form:

By: _____
Karen Tachiki
SCAG Legal Counsel

EXHIBIT A: PART I.

SCOPE OF WORK

FRA Grant # DTFRDV-02-H-60029
Preconstruction Planning Funding for the Los Angeles, California Maglev System

I. POTENTIAL FOR TRANSIT ORIENTED DEVELOPMENT AT IOS STATIONS

The Grantee will identify the potential land uses for transit-oriented development (TOD) in and around the four or five proposed stations associated with the viable alternatives for the IOS. Stakeholders and the community will be involved in the development of a proposed plan for each IOS station. This task will provide the direction necessary in the preliminary engineering phase of the program. The task consists of six components, as follows:

A. Development of objectives and evaluation criteria and TOD principles;
B. Data collection and coordination with local cities and the communities;
C. Market assessment of TOD;
D. TOD impacts on IOS ridership;
E. Preliminary analysis of additional revenues due to TOD; and
F. Design guidelines and implementation strategy for development.

The Grantee shall prepare a technical report on the potential for Transit Oriented Development in and around all of the preferred station locations of the IOS as identified in element I.

DELIVERABLE: Technical Report on the Potential for Transit Oriented Development in and around all of the stations of the IOS- West Los Angeles, LAUPT, West Covina, and Ontario Airport
DUE: February 28, 2005

II. PRELIMINARY ENGINEERING FOR ONTARIO AIRPORT TO WEST COVINA

The Grantee will perform preliminary engineering and design development services for the segment of the IOS between Ontario Airport and the West Covina station, and other related tasks specifically oriented to the physical scope and technical characteristics of the project, including:

A. Production of base mapping of the Maglev alignment, including existing and planned utilities, railroad, highway and street right-of-ways, buildings, and other significant structures;
B. Geo-technical investigation analysis based on existing information. No boring tests will be required;

C. Developing and preparing plans profiles, and cross-sections;
D. Preliminary guideways and structures design analysis identifying the plans, specifications and cost estimates; and
E. Identifying impact of construction of the Maglev segment on freeway traffic.

The California Maglev Deployment Program is founded on the concept of using existing freeway and railroad corridor right-of-ways. The design concept calls for placing the elevated Maglev guide-ways above freeway corridors with columns placed in medians or along the edges of existing roadways. Key issues to be addressed are location of infrastructure, including the proposed Statewide high-speed train system, the California-Nevada Maglev Project proposal planned expansions of freeways and major arterials, planned expansions of freight and passenger rail facilities, passenger stations, maintenance facilities, and specific design solutions along the IOS where potential conflicts exist or may occur between use of the surface and air space. Existing Maglev technology to accommodate existing and planned constraints will be identified, and alternate solutions will be developed for consideration by policy makers. This work will help to direct future preliminary engineering studies to the most feasible design solutions. There will be extensive coordination with Caltrans and other agencies in performing this work.

The Grantee will produce a Preliminary Engineering and Technical Analysis Report describing the work completed under this task, including:

1. Base mapping of the alignment of the Maglev segment sufficiently wide to show any necessary relocation of existing or planned transportation facilities;
2. Plans (at a scale of 400 feet per inch), profiles (at a scale of 40 feet per inch) and cross-sections of the Maglev segment between stations;
3. Technical memorandum identifying the geo-technical investigation of the segment and around the structures and stations;
4. Preliminary guideways and structures design analysis identifying plans specifications and cost estimates; and
5. Technical memorandum identifying impact of construction on traffic operations.

DELIVERABLE: Preliminary Engineering and Technical Analysis Report on Guideway
DUE: March 31, 2005

III. PRELIMINARY DESIGN OF STATIONS & MAINTENANCE FACILITY

The Grantee will perform preliminary engineering and conceptual design development services for the proposed stations located at Ontario Airport and in West Covina. The work will include development of preliminary site plans showing provisions for parking and intermodal connections and transfer to existing and planned connecting transportation services, including considerations for the California-Nevada Maglev proposal serving Ontario Airport. The Grantee will also locate and prepare preliminary

designs, and site plans for a maintenance facility to be located in this segment of the alignment, and other related tasks specifically oriented to the physical scope and technical characteristics of the stations and maintenance facility, including:

A. Assessment of traffic impacts around station sites, including intersections and arterials;
B. Preliminary location, and design of a maintenance facility; and
C. Preliminary design of Ontario Airport and West Covina Maglev stations and related parking facilities.

The Grantee will produce a Preliminary Engineering and Technical Analysis Report describing the work completed under this task.

DELIVERABLE: Preliminary Engineering and Technical Analysis Report on Stations & Maintenance Facility
DUE: April 30, 2005

IV. REFINED COST ESTIMATES

The Grantee will prepare a Cost Estimating Technical Memorandum. This will be a preliminary document on the approach to cost estimating for the preliminary engineering completed under element III and IV.

The Grantee will prepare preliminary estimates of the capital costs of all proposed work to be completed between Ontario Airport and the West Covina stations in accordance with the approach defined in the Cost Estimating Technical Memorandum, including:

A. Guideway;
B. Propulsion, control and guidance systems;
C. Power distribution system;
D. Stations and parking facilities;
E. Maintenance facilities;
F. Necessary ROW, roadway improvements and utility relocation;
G. Maintenance and protection of traffic during construction; and
H. Any other related costs.

DELIVERABLE: Cost Estimating Technical Memorandum
DUE: January 31, 2005
DELIVERABLE: Preliminary Estimate of Capital Costs
DUE: October 31, 2005

V. OUTREACH AND COMMUNICATIONS

The Public Involvement Plan (PIP) will be updated by the Grantee. The focus of these efforts will be to raise the visibility of the project on the local level. The goal of the

outreach effort will be to support work conducted under elements II, III and IV. The Grantee will prepare a PIP document that identifies stakeholders for the Ontario Airport and West Covina corridor.

DELIVERABLE: Public Involvement Plan Document
DUE: November 30, 2004

EXHIBIT A: PART II.

SCOPE OF WORK

FRA Grant # DTFRDV-02-H-60029
Preconstruction Planning Funding for the Los Angeles, California Maglev System

I. ALTERNATIVES ANALYSIS

The Grantee will prepare an Alternatives Analysis Study, which will evaluate alternatives for the most optimum transit system for the entire length of the proposed Initial Operating Segment (IOS). The goals and objectives of a regional high speed ground transportation system include, but are not limited to, the need to decentralize aviation demand to regional airports, the need to stimulate Southern California's economy and the need to relieve congestion on highways/freeways. The study will evaluate various available high-speed technologies including the technology proposed for the State of California High Speed Train (HST) system and the Southern California Maglev Deployment Program. The study will seek to identify the preferred technology for the IOS. The study will compare the overall cost/benefits of available high-speed transit technologies. The study will comply with, but not be limited to, the required elements of an Environmental Impact Statement and Environmental Impact Report (EIS/EIR) as required respectively by the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

The study will compare potential available high-speed technologies for a transit system for the entire length of the proposed IOS. The study will conduct comprehensive analysis of capital requirements, maintenance and operational costs, ridership, special structures, station and parking facilities, tracks, bridges and tunnels, maintenance facilities, operational plan, joint development, pedestrian access, financial analysis and constraints, infrastructure of guideways. The study will also consider potential linkage from the proposed Maglev West Los Angeles station to Los Angeles International Airport (LAX).

Prior to initiating Task I, the Grantee will prepare a detailed work plan to accomplish the SOW. The detailed work plan will be reviewed and approved by FRA before initiating the alternative analysis, which will include the following:

1) **Alignment and Right-of-Way** - The study will seek to identify viable alignments and a preferred alignment for high-speed transit on the IOS. The study will compare potential technologies with respect to alternative alignments and the necessary right-of-way for each technology taking into consideration the integration of the various technologies with the existing infrastructure. At a minimum, the study will address the following specific issues:

   A. The proposed Maglev plan includes a station at West Los Angeles at its westerly terminus several miles north of LAX. The study will

analyze how to establish linkages with LAX, both interim and long-term.

B. The proposed Maglev system is a two-track system. Many transit systems in other regions utilize a four-track system around stations to allow faster trains to pass slower trains and to bypass selected stations in a shared right of way. The study will investigate the desirability and feasibility of a four track system around stations for Maglev and alternative high speed technologies as well as the required right-of-way for alignments that may include shared right of way.

C. The study will confirm the feasibility of the proposed HST connection to LAX including the required right-of-way.

2) **Station Spacing** - The study will seek to identify an optimum station spacing, on alternate alignments, to maximize ridership and revenue, taking into consideration the impact of station spacing on ridership, convenience, cost of stations, impacts of stations on the street network, feeder system to each station and operational plan. The study will compare the cost/benefits of various high-speed technologies with regard to preferred station spacing.

3) **Station Location** - The study will seek to identify preferred station locations for viable alignments with respect to impacts on ridership and convenience. The proposed alignment on the IOS should provide station locations that are convenient and comfortable for the public (for example, there is some evidence that station platforms in close proximity to freeway traffic are a disincentive for the public use of transit).

4) **Noise** - Compare potential technologies with respect to noise levels and the potential impact on the communities adjacent to viable alignments.

5) **Project Financing** - Compare potential technologies with respect to various alternatives for financing the capital (including construction costs, and spare vehicles with appropriate ratio per technology), start up and operating costs of the of the project.

With respect to each technology;

A. The study will evaluate the feasibility of a private funding strategy through bonding. Furthermore, the study will evaluate the form of ownership. Private bond investors may require a "non-compete" agreement, which would restrict the public sector's ability to make improvements to adjacent transportation systems on the IOS. The study will also evaluate financing implications in the event a "non-compete" agreement is not approved.

B. The study will evaluate potential exposure on the governmental agencies, which could be members of the Joint Powers Authority, if the Maglev project is a public/private partnership.

6) **Operating Cost** - Compare potential technologies with respect to operating costs including administration, maintenance labor, maintenance facility, spare parts, future vehicle replacement cycle and fuel consumption.

7) **Cost Effectiveness and Fares** - Compare potential technologies with respect to anticipated ridership for viable alignment station combinations and the required revenues to meet project financing requirements and cover operating costs. The study will include analysis of subsidy requirements, if any. The study will also compare the projected fares based on system cost and analyze the impact of such fares on ridership.

8) **Project Economics** - Compare potential technologies with respect to proposed financing methodology for each technology and include potential cost/benefit analysis in form of a comprehensive business plan. The study will include public and private financing scenarios for Maglev and alternative technologies.

9) **Transit Linkages/Feeder Service** - Compare potential technologies, alignment and station locations with respect to linkages and appropriate feeder service with existing and proposed systems and analyze the necessary improvements to infrastructure, related costs and source of funding.

In regard to the proposed State HST in the region;

A. The study will evaluate the best strategy to integrate the IOS and HST systems with each other and the existing and proposed systems for maximum ridership and regional benefit.

B. The study will evaluate compatibility of the IOS and HST systems with existing and proposed steel rail infrastructure and evaluate the ability to share existing tracks and overall system effectiveness. As part of the cost/benefit analysis for any of the various potential technologies, the study will examine to what extent the ability to share the same track should be a priority for the region.

10) **Energy Consumption** - Compare potential technologies with respect to energy consumption, including demand, source and environmental impacts of required local generation facilities, if any.

11) **Headways** - Compare potential technologies with respect to frequency of headways required to maximize ridership.

DELIVERABLES

The following table details anticipated deliverables for this study:

Item	Product	Date
1.0	Quarterly Progress and Financial Report	January 31, 2004
2.0	Interim Study Report (50% completion)	April 20, 2005
3.0	Quarterly Progress and Financial Report	April 30, 2005
4.0	Quarterly Progress and Financial Report	July 31, 2005
5.0	Quarterly Progress and Financial Report	September 30, 2005
6.0	**Final Product**	**September 30, 2005**

EXHIBIT A: PART III.

SCOPE OF WORK

FRA Grant # DTFRDV-02-H-60029
Preconstruction Planning Funding for the Los Angeles, California Maglev System

I. PROJECT MANAGEMENT AND ADMINISTRATION

The Grantee is required to keep appropriate accounts and records and to file appropriate financial and progress reports, as specified in the Agreement. The Grantee is also required to administer the Agreement and to manage and be responsible for conformance to the Approved Project Budget, Project Schedules, and all applicable laws, regulations, and published policies. This includes, but is not limited to, the following as applicable:

U.S. DOT regulations, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments" (common grant management rule), 49 C.F.R. part 18, which applies to projects with governmental bodies.

SCAG staff will perform project management, coordination, and support for the Maglev Task Force, contract administration, monitoring and progress reporting to the Federal Railroad Administration, and SCAG's Policy Committees. SCAG staff will also provide needed data, modeling and studies to consultant. SCAG staff will be involved in public outreach efforts, modeling and technical analysis for IOS Preliminary Engineering.

DELIVERABLE: FRA Quarterly Progress Reports and Final Report
DUE: January 31, 2005; April 30, 2005; July 31, 2005; September 30, 2005; October 31, 2005 (final)

EXHIBIT B
BUDGET
FRA Grant # DTFRDV-02-H-60029
Preconstruction Planning Funding for the Los Angeles, California Maglev System

Total Grant Award

SAP	Match	Grant	Total
Staff 1 - SCAG Staff	**$100,000**	$100,000	$200,000
Consultant1 - PE Study	**$524,970**	$525,030	$1,050,000
Consultant2 - Alternatives	**$375,030**	$374,970	$750,000
Total	**$1,000,000**	$1,000,000	$2,000,000

Total Match Contributions by Agency

City of LA	56.30%	$563,000.00
Ontario	20.00%	$200,000.00
SANBAG	23.67%	$236,734.00
SCAG	0.03%	$266.00
Total	100.00%	$1,000,000.00

Staff 1: SCAG Staff match by agency

City of LA	56.30%	$56,300.00
Ontario	20.00%	$20,000.00
SANBAG	23.67%	$23,670.00
SCAG	0.03%	$30.00
Total	100.00%	**$100,000.00**

Consultant 1: Preliminary Engineering match by agency

LA	56.30%	$295,558.11
Ontario	20.00%	$104,994.00
SANBAG	23.67%	$124,260.40
TDA	0.03%	$157.49
Total	100.00%	**$524,970.00**

Consultant 2: Alternatives Analysis match by agency

LA	56.30%	$211,141.89
Ontario	20.00%	$75,006.00
SANBAG	23.67%	$88,769.60
TDA	0.03%	$112.51
Total	100.00%	**$375,030.00**

ITEM 6.1 ALTERNATIVES ANALYSIS UPDATE

MEMO

To: **Maglev Task Force Members**

From: **Zahi Faranesh (x819) and Sarah Adams (x818)**

Date: **January 19, 2005**

RE: **Alternatives Analysis Update**

SUMMARY:

As discussed at the October Maglev Task Force Meeting, a Request For Proposals (RFP) was released for the purposes of finding a consultant to perform an alternatives analysis between High Speed steel-on-steel Rail and Maglev along the IOS corridor. Criteria to be analyzed include technology reviews, alignments, financial feasibility, ridership and economics. The Consultant will review past studies and will develop an independent recommendation on technology based on independent modeling and analysis.

SCAG staff mailed postcards to 250 pre-qualified firms on SCAG's bidders list to notify them of the release of RFP No. 05-036. The RFP was also posted on SCAG's web site. The following five proposals were received in response to the solicitation:

ARUP (7 subcontractors)	$749,282
Cambridge Systematics, Inc. (4 subcontractors)	$749,925
Elliott Consulting Group (2 subcontractors)	$749,835
RAND (3 subcontractors)	$750,000
STV (6 subcontractors)	$749,947

The Proposal Review Committee (PRC) evaluated all five proposals in accordance with the criteria set forth in the RFP, and the selection process was conducted in a manner consistent with all applicable Federal and State contracting regulations. Interviews were held with only four of the offerors, as ARUP declined to be interviewed.

The PRC was comprised of the following individuals:

Jim McCarthy, Office Chief of Regional Planing, Caltrans Dist. 7
James Okazaki, Assistant General Manager, LADOT
Steve Smith, Principal Transportation Analyst, SANBAG
John Sullivan, City Engineer, Ontario
Hasan Ikhrata, Planning Director, SCAG

Cambridge Systematics, Inc. was selected as the consultant for this contract. Cambridge brings a highly qualified team of consultants with a deep understanding of high-speed ground transportation technologies. Cambridge further delivered the most balanced overall portfolio of experience and demonstrated the greatest depth and breadth of understanding in ridership and financial analysis. Further, Cambridge developed the

confidence of the interview panel during the interview by providing substantial assurance of objective and fair analysis. They also provided the lowest total cost of those interviewed and their schedule was within established guidelines.

Cambridge also showed thorough understanding of the challenges that may be faced on this type of analysis and provided clear solutions to those potential challenges and a defined system for solving unforeseen challenges and maintaining the described schedule. They can allow substantial flexibility in prioritizing tasks at the discretion of the Technical Advisory Committee and can further allow additional flexibility throughout the study.

Although the planned start date was February 1, 2005, a protest has been filed against the selected consultant. This protest will delay the start date.

ITEM 6.2 CONGRESSIONAL SHANGHAI TRIP

MEMO

To: **Maglev Task Force Members**

From: **Zahi Faranesh (x819) and Sarah Adams (x818)**

Date: **January 19, 2005**

RE: **Congressional Shanghai Trip**

SUMMARY:

During the January meeting of the Regional Council, two SCAG representatives were approved to participate in an upcoming trip to Shanghai as described below:

SCAG has been invited by Transrapid, USA to represent the Southern California Maglev Deployment Project on a trip to Shanghai and Beijing, China, that has been planned for January or February, 2005. Transrapid USA has extended similar invitations to all active Maglev projects: Pittsburgh, Baltimore-Washington, Southern California and Cal-Nevada.

The purpose of this trip is to educate Congressional Committee staff on Maglev technology and the United States Maglev Program. Several high-ranking Committee staff members will be included in the group, providing an excellent opportunity for SCAG to interface with Congressional staffers and educate them on the importance of the United States Maglev program and the Southern California Maglev Deployment Program. Participants will be able to interact with Congressional staff on an ongoing basis and will be able to present their projects to attendees.

With Congress reconvening in mid-January when discussions and negotiations will begin on TEA-21 Reauthorization, time is critical to ensure adequate funding for the Maglev program in the Reauthorization. The reauthorization process is expected to conclude in April 2005, making this trip essential to the understanding of the authors of such expansive transportation legislation.

The approximate cost per person is $3,000.

ITEM 6.3 SAFETEA AND TRANSPORTATION APPROPRIATIONS UPDATE

MEMO

To: **Maglev Task Force Members**

From: **Zahi Faranesh (x819) and Sarah Adams (x818)**

Date: **January 19, 2005**

RE: **SAFETEA and Transportation Appropriations Update**

SUMMARY:

During the November 2004, "lame-duck" session, the United States Congress passed the FY2005 Appropriation Omnibus Bill containing millions of dollars for the Southern California region. A discussion will be held regarding earmarks, programmatic funding and follow-up on appropriation requests that were not granted.

Discussion will also occur on development of the legislative affairs consensus strategy for this year and any implications of the recent elections. A SCAG Consensus Trip has been planned during the month of February.

Recent developments on all legislative issues, including SAFETEA, will be covered and implications and directions for future action will be discussed as we begin the new Congress this month.